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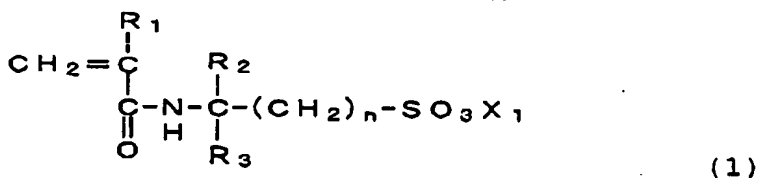
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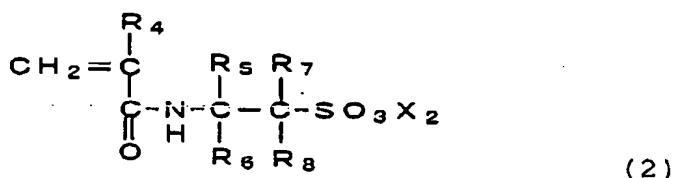
WHAT IS CLAIMED IS:

1. A dry toner comprising: (i) a binder resin; (ii) a colorant; (iii) at least one of metallophthalocyanine and a metallophthalocyanine derivative having a central metal selected from the group consisting of Cr, Fe, Co, Ni, Zn, Mn, Mg, and Al; and (iv) at least one of (a) a polymer containing 0.5 to 20 % by mass of a base unit derived from a polymerizable monomer represented by the following structural formula (1), (b) a polymer containing 0.5 to 20 % by mass of a base unit derived from a polymerizable monomer represented by the following structural formula (2), and (c) a polymer containing 0.5 to 20 % by mass each of a base unit derived from a polymerizable monomer represented by the following structural formula (3) and a vinyl monomer having a carboxyl group:

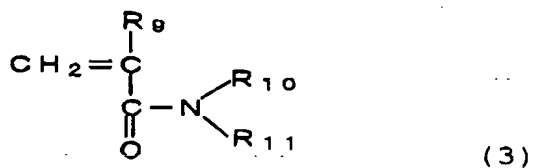


(wherein, R₁ represents a hydrogen atom or a methyl group; R₂ and R₃ each represent independently a hydrogen atom, an aryl group, a C₁ to C₁₀ alkyl group, a C₁ to C₁₀ alkenyl group, or a C₁ to C₁₀ alkoxy group; X₁

represents a hydrogen atom, an alkali metal atom, an alkaline earth metal atom, or a quaternary ammonium salt; and n represents an integer of 1 to 10)



(wherein, R₄ represents a hydrogen atom or a methyl group; R₅ to R₈ each represent independently a hydrogen atom, an aryl group, an aromatic group, a C₁ to C₁₀ alkyl group, a C₁ to C₁₀ alkenyl group, or a C₁ to C₁₀ alkoxy group but at least one of R₅ to R₈ represents an unsubstituted or substituted aromatic group; and X₂ represents a hydrogen atom, an alkali metal atom, an alkaline earth metal atom, or a quaternary ammonium salt)



(wherein, R₉ represents a hydrogen atom or a methyl group; R₁₀ and R₁₁ each represent independently a hydrogen atom, an aryl group, a C₁ to C₂₀ alkyl group, a C₁ to C₂₀ alkenyl group, or a C₁ to C₂₀ alkoxy group and R₁₀ and R₁₁ may be coupled together to form a nonaromatic organic group having different atoms except

a carbon atom and a cyclic structure of C₄ to C₂₀).

2. The dry toner according to claim 1, wherein the colorant comprises carbon black having a particle diameter of 50 nm or less.

3. The dry toner according to claim 1, wherein the colorant comprises a cyan colorant selected from the group consisting of a Cu phthalocyanine compound, a derivative thereof, an anthraquinone compound, and a basic dye lake compound.

4. The dry toner according to claim 1, further comprising wax, wherein the wax comprises a wax having a melting point of 50 to 110°C and a wax having a melting point of 80 to 140°C.

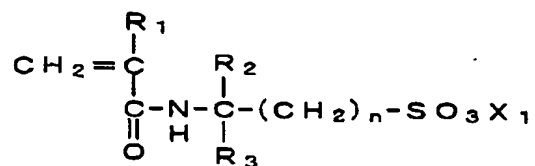
5. The dry toner according to claim 1, wherein:
the toner has a number-average equivalent circle diameter of 2 to 10 μm with respect to a number-basis particle diameter distribution measured by a flow-type particle image measuring device;

the toner has an average circularity of 0.950 to 0.995 and a content of the particles having the circularity of less than 0.950 of 30 % by number or less with respect to a frequency distribution of circularity measured by a flow-type particle image

measuring device.

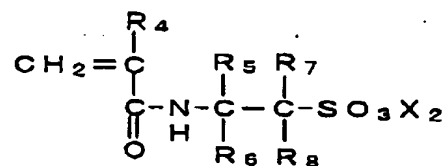
6. A method for producing a dry toner, comprising:

a phthalocyanine treatment step of mixing at least (iii) at least one of metallophthalocyanine and a metallophthalocyanine derivative having a central metal selected from the group consisting of Cr, Fe, Co, Ni, Zn, Mn, Mg, and Al and (iv) at least one of (a) a polymer containing 0.5 to 20 % by mass of a base unit derived from a polymerizable monomer represented by the following structural formula (1), (b) a polymer containing 0.5 to 20 % by mass of a base unit derived from a polymerizable monomer represented by the following structural formula (2), and (c) a polymer containing 0.5 to 20 % by mass each of a base unit derived from a polymerizable monomer represented by the following structural formula (3) and a vinyl monomer having a carboxyl group, in such a manner that an absorbance of the highest absorption peak in visible absorption spectra exhibited by the metallophthalocyanine and/or the metallophthalocyanine derivative after the mixing is 5 or more times as high as that before mixing:



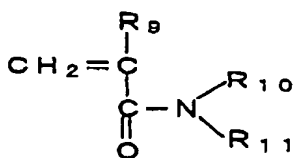
(1)

(wherein, R₁ represents a hydrogen atom or a methyl group; R₂ and R₃ each represent independently a hydrogen atom, an aryl group, a C₁ to C₁₀ alkyl group, a C₁ to C₁₀ alkenyl group, or a C₁ to C₁₀ alkoxy group; X₁ represents a hydrogen atom, an alkali metal atom, an alkaline earth metal atom, or a quaternary ammonium salt; and n represents an integer of 1 to 10)



(2)

(wherein, R₄ represents a hydrogen atom or a methyl group; R₅ to R₈ each represent independently a hydrogen atom, an aryl group, an aromatic group, a C₁ to C₁₀ alkyl group, a C₁ to C₁₀ alkenyl group, or a C₁ to C₁₀ alkoxy group but at least one of R₅ to R₈ represents an unsubstituted or substituted aromatic group; and X₂ represents a hydrogen atom, an alkali metal atom, an alkaline earth metal atom, or a quaternary ammonium salt)



(3)

(wherein, R₉ represents a hydrogen atom or a methyl group; R₁₀ and R₁₁ each represent independently a hydrogen atom, an aryl group, a C₁ to C₂₀ alkyl group, a C₁ to C₂₀ alkenyl group, or a C₁ to C₂₀ alkoxy group and R₁₀ and R₁₁ may be coupled together to form a nonaromatic organic group having different atoms except a carbon atom and a cyclic structure of C₄ to C₂₀).

7. The method for producing a dry toner according to claim 6, wherein the phthalocyanine treatment step is conducted in the presence of a vinyl polymerizable monomer, and

the method further comprises a step of polymerizing the vinyl polymerizable monomer in the product prepared by the phthalocyanine treatment step.

8. The method for producing a dry toner according to claim 6, wherein the mixing treatment is conducted using the metallophthalocyanine and/or the metallophthalocyanine derivative having a particle diameter of 50 to 200 nm and using only a non-media type disperser in the phthalocyanine treatment step.

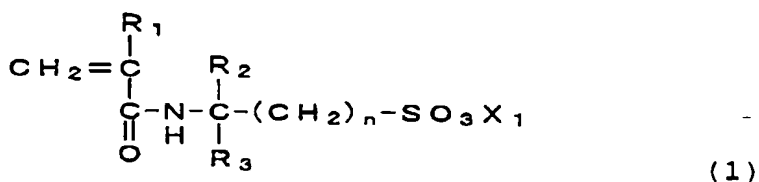
9. A method for producing a dry toner comprising

the steps of:

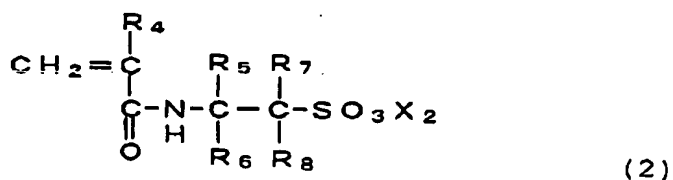
obtaining a polymerizable monomer composition by mixing (i) a monomer which constitutes a binder resin, (ii) a colorant, (iii) at least one of metallophthalocyanine and a metallophthalocyanine derivative having a central metal selected from the group consisting of Cr, Fe, Co, Ni, Zn, Mn, Mg, and Al; and (iv) at least one of (a) a polymer containing 0.5 to 20 % by mass of a base unit derived from a polymerizable monomer represented by the following structural formula (1), (b) a polymer containing 0.5 to 20 % by mass of a base unit derived from a polymerizable monomer represented by the following structural formula (2), and (c) a polymer containing 0.5 to 20 % by mass each of a base unit derived from a polymerizable monomer represented by the following structural formula (3) and a vinyl monomer having a carboxyl group, in such a manner that an absorbance of the highest absorption peak in visible absorption spectra exhibited by the metallophthalocyanine and/or the metallophthalocyanine derivative after the mixing is 5 or more times as high as that before mixing;

granulating the polymerizable monomer composition into particles having a size according to a desired toner particle diameter; and

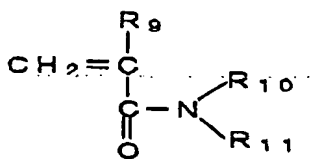
obtaining the toner by polymerizing the granulated polymerizable monomer composition:



(wherein, R₁ represents a hydrogen atom or a methyl group; R₂ and R₃ each represent independently a hydrogen atom, an aryl group, a C₁ to C₁₀ alkyl group, a C₁ to C₁₀ alkenyl group, or a C₁ to C₁₀ alkoxy group; X₁ represents a hydrogen atom, an alkali metal atom, an alkaline earth metal atom, or a quaternary ammonium salt; and n represents an integer of 1 to 10)



(wherein, R₄ represents a hydrogen atom or a methyl group; R₅ to R₈ each represent independently a hydrogen atom, an aryl group, an aromatic group, a C₁ to C₁₀ alkyl group, a C₁ to C₁₀ alkenyl group, or a C₁ to C₁₀ alkoxy group but at least one of R₅ to R₈ represents an unsubstituted or substituted aromatic group; and X₂ represents a hydrogen atom, an alkali metal atom, an alkaline earth metal atom, or a quaternary ammonium salt)



(3)

(wherein, R_9 represents a hydrogen atom or a methyl group; R_{10} and R_{11} each represent independently a hydrogen atom, an aryl group, a C_1 to C_{20} alkyl group, a C_1 to C_{20} alkenyl group, or a C_1 to C_{20} alkoxy group and R_{10} and R_{11} may be coupled together to form a nonaromatic organic group having different atoms except a carbon atom and a cyclic structure of C_4 to C_{20}).

10. A method for producing a dry toner comprising the steps of:

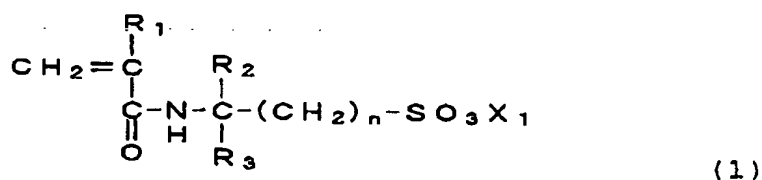
obtaining a mixture by mixing (iii) at least one of the metallophthalocyanine and the metallophthalocyanine derivative having a central metal selected from the group consisting of Cr, Fe, Co, Ni, Zn, Mn, Mg, and Al and (iv) at least one of (a) a polymer containing 0.5 to 20 % by mass of a base unit derived from a polymerizable monomer represented by the following structural formula (1), (b) a polymer containing 0.5 to 20 % by mass of a base unit derived from a polymerizable monomer represented by the following structural formula (2), and (c) a polymer containing 0.5 to 20 % by mass each of a base unit derived from a polymerizable monomer represented by the following structural formula (3) and a vinyl monomer

having a carboxyl group, in such a manner that an absorbance of the highest absorption peak in visible absorption spectra expressed by the metallophthalocyanine and/or the metallophthalocyanine derivative after the mixing is 5 or more times as high as that before mixing;

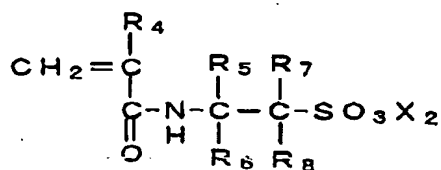
obtaining the polymerizable monomer composition by adding (i) the monomer constituting a binder resin and (ii) the colorant to the mixture;

granulating the polymerizable monomer composition into particles having a size according to a desired toner particle diameter; and

obtaining the toner by polymerizing the granulated polymerizable monomer composition:

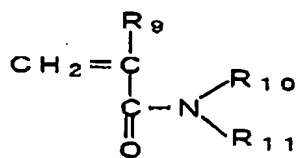


(wherein, R₁ represents a hydrogen atom or a methyl group; R₂ and R₃ each represent independently a hydrogen atom, an aryl group, a C₁ to C₁₀ alkyl group, a C₁ to C₁₀ alkenyl group, or a C₁ to C₁₀ alkoxy group; X₁ represents a hydrogen atom, an alkali metal atom, an alkaline earth metal atom, or a quaternary ammonium salt; and n represents an integer of 1 to 10)



(2)

(wherein, R₄ represents a hydrogen atom or a methyl group; R₅ to R₈ each represent independently a hydrogen atom, an aryl group, an aromatic group, a C₁ to C₁₀ alkyl group, a C₁ to C₁₀ alkenyl group, or a C₁ to C₁₀ alkoxy group but at least one of R₅ to R₈ represents an unsubstituted or substituted aromatic group; and X₂ represents a hydrogen atom, an alkali metal atom, an alkaline earth metal atom, or a quaternary ammonium salt)



(3)

(wherein, R₉ represents a hydrogen atom or a methyl group; R₁₀ and R₁₁ each represent independently a hydrogen atom, an aryl group, a C₁ to C₂₀ alkyl group, a C₁ to C₂₀ alkenyl group, or a C₁ to C₂₀ alkoxy group and R₁₀ and R₁₁ may be coupled together to form a nonaromatic organic group having different atoms except a carbon atom and a cyclic structure of C₄ to C₂₀).

11. A method for forming an image comprising the steps of:

charging an electrostatic latent image bearing member by externally applying a voltage to a charging member;

forming an electrostatic latent image on the charged electrostatic latent image bearing member;

developing the electrostatic latent image with a toner to form a toner image on the electrostatic latent image bearing member;

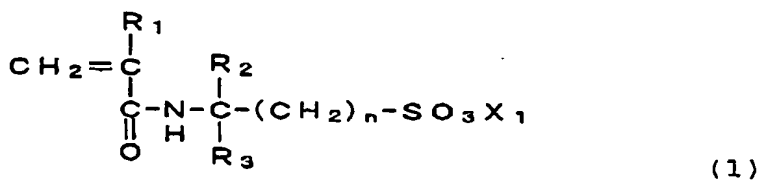
transferring the toner image on the electrostatic latent image bearing member to a transfer material through or without an intermediate transferring member; and

fixing the toner image on the transfer material through a heat pressure means to form a fixed image on the transfer material, wherein:

(I) the heat pressure means is provided with a rotary heating member having a heating medium and a rotary pressing member forming a nip portion in press contact with the rotary heating member, (II) the heat pressure means consumes 0 to 0.025 mg/cm², based on a unit area of the transfer material, of an offset preventing liquid applied to a contact surface of the rotary heating member with the toner image on the transfer material, and (III) the heat pressure means fixes the toner image on the transfer material under heat and pressure through the rotary heating member and the rotary pressing member while nipping and conveying

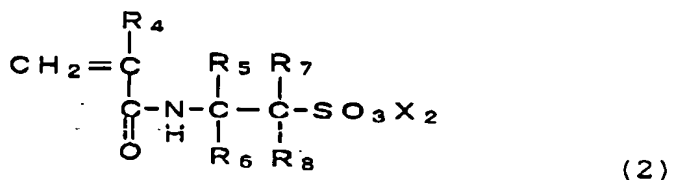
the transfer material within the nip portion; and

the toner is a dry toner comprising: (i) a binder resin; (ii) a colorant; (iii) at least one of metallophthalocyanine and a metallophthalocyanine derivative having a central metal selected from the group consisting of Cr, Fe, Co, Ni, Zn, Mn, Mg, and Al and (iv) at least one of (a) a polymer containing 0.5 to 20 % by mass of a base unit derived from a polymerizable monomer represented by the following structural formula (1), (b) a polymer containing 0.5 to 20 % by mass of a base unit derived from a polymerizable monomer represented by the following structural formula (2), and (c) a polymer containing 0.5 to 20 % by mass each of a base unit derived from a polymerizable monomer represented by the following structural formula (3) and a vinyl monomer having a carboxyl group:

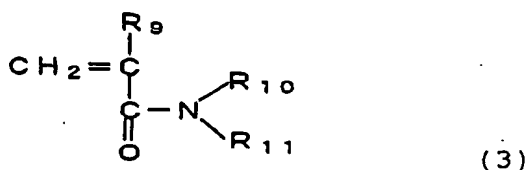


(wherein, R₁ represents a hydrogen atom or a methyl group; R₂ and R₃ each represent independently a hydrogen atom, an aryl group, a C₁ to C₁₀ alkyl group, a C₁ to C₁₀ alkenyl group, or a C₁ to C₁₀ alkoxy group; X₁ represents a hydrogen atom, an alkali metal atom, an

alkaline earth metal atom, or a quaternary ammonium salt; and n represents an integer of 1 to 10)



(wherein, R₄ represents a hydrogen atom or a methyl group; R₅ to R₈ each represent independently a hydrogen atom, an aryl group, an aromatic group, a C₁ to C₁₀ alkyl group, a C₁ to C₁₀ alkenyl group, or a C₁ to C₁₀ alkoxy group but at least one of R₅ to R₈ represents an unsubstituted or substituted aromatic group; and X₂ represents a hydrogen atom, an alkali metal atom, an alkaline earth metal atom, or a quaternary ammonium salt)



(wherein, R₉ represents a hydrogen atom or a methyl group; R₁₀ and R₁₁ each represent independently a hydrogen atom, an aryl group, a C₁ to C₂₀ alkyl group, a C₁ to C₂₀ alkenyl group, or a C₁ to C₂₀ alkoxy group and R₁₀ and R₁₁ may be coupled together to form a nonaromatic organic group having different atoms except a carbon atom and a cyclic structure of C₄ to C₂₀).

12. A method for forming an image according to claim 11, wherein the transfer material is a recycled paper having more than 70 % by mass of recycled pulp in mixing ratio.

13. A method for forming an image according to claim 11, wherein the colorant comprises carbon black having a particle diameter of 50 nm or less.

14. A method for forming an image according to claim 11, wherein the colorant comprises a cyan colorant selected from the group consisting of a Cu phthalocyanine compound, a derivative thereof, an anthraquinone compound, and a basic dye lake compound.

15. A method for forming an image according to claim 11, wherein the toner further comprises wax comprising a wax having a melting point of 50 to 110°C and a wax having a melting point of 80 to 140°C.

16. A method for forming an image according to claim 11, wherein:

the toner has a number-average equivalent circle diameter of 2 to 10 μm with respect to a number-basis particle diameter distribution measured by a flow-type particle image measuring device;

the toner has an average circularity of 0.950 to 0.995 and a content of the particles having the circularity of less than 0.950 of 30 % by number or less with respect to a frequency distribution of circularity measured by a flow-type particle image measuring device.